

AMENDMENT TO THE CLAIMS

Listing of Claims:

1. (Currently Amended) An apparatus for creating a pattern on a workpiece sensitive to light radiation, comprising:
 - a light source for emitting light flashes in the wavelength range from EUV to IR,
 - a spatial light modulator (SLM) having a multitude of modulating elements (pixels), adapted to ~~[[being]]~~ be illuminated by said radiation,
 - a projection system creating an image of the modulator on the workpiece,
 - an electronic data processing and delivery system receiving a digital description of the pattern to be written, converting said pattern to modulator signals, and feeding said signals to the modulator,
 - a precision mechanical system for positioning said workpiece and/or projection system relative to each other, and
 - an electronic control system controlling the position of the workpiece, the feeding of the signals to the modulator and the intensity of the radiation, so that said pattern is printed on the workpiece,
 - wherein said electronic control system is further arranged to control a trigger signal to the light source for emitting the light flashes so that a trigger signal timing is varied to compensate for flash-to-flash time jitter in said light source, and at least partially correct for pattern placement errors.
2. (Canceled)
3. (Previously Presented) The apparatus of claim 1, wherein the electronic control system is arranged to control a time offset of the trigger signal.

4. (Original) The apparatus of claim 3, wherein the offset value is estimated based on a measured delay between a trigger signal and a resulting exposure for at least one of the latest exposures.

5. (Previously Presented) The apparatus of claim 1, whereby the light source is a laser.

6. (Original) The apparatus of claim 1, where the pattern is formed in photoresist, photopolymer or photographic emulsion.

7. (Currently Amended) A method for creating a pattern on a workpiece sensitive to light radiation, comprising:

emitting light flashes in the wavelength range from EUV to IR,
modulating the emitted light with a spatial light modulator (SLM) having a multitude of modulating elements (pixels),
projecting an image of the modulator on the workpiece, and
controlling the emitted radiation, the modulator and the positioning of the workpiece in relation to the projected image, based on a digital description of the pattern to be written, so that said pattern is printed on the workpiece,
wherein controlling the emitted radiation involves controlling a trigger signal for emitting the light flashes so that a trigger signal timing is varied to compensate for flash-to-flash time jitter, and at least partially correct for pattern placement errors.

8. (Canceled)

9. (Previously Presented) The method of claim 7, wherein a time offset of the trigger signal is controlled.

10. (Original) The method of claim 9, wherein the offset value is estimated based on a measured delay between a trigger signal and a resulting exposure for at least one of the latest exposures.

11. (Currently Amended) An apparatus for creating a pattern on a workpiece sensitive to light radiation, comprising:

a light source for emitting light flashes in the wavelength range from EUV to IR,

a spatial light modulator (SLM) having a multitude of individually controllable modulating elements (pixels), adapted to ~~[[being]]~~ be illuminated by said radiation,

a projection system for creating an image of the modulator on the workpiece, and

an electronic control system controlling the position of the image created on the workpiece, the modulation elements of the modulator and the intensity of the radiation, in accordance with an intended pattern to be printed,

wherein said electronic control system is further arranged to control a trigger signal to the light source for emitting the light flashes so that a trigger signal timing is varied to compensate for flash-to-flash time jitter in said light source, and at least partially correct for pattern placement errors.

12. (Canceled)

13. (Previously Presented) The apparatus of claim 11, wherein the electronic control system is arranged to control a time offset of the trigger signal.

14. (Original) The apparatus of claim 13, wherein the offset value is estimated based on a measured delay between a trigger signal and a resulting exposure for at least one of the latest exposures.

15. (Previously Presented) The apparatus of claim 11, whereby the light source is a laser.

16. (Original) The apparatus of claim 11, where the pattern is formed in photoresist, photopolymer or photographic emulsion.

17. (Currently Amended) An apparatus for creating a pattern on a photosensitive workpiece, comprising:

a light source for emitting light flashes in the wavelength range from EUV to IR,

a projection system for directing the emitted light to the workpiece, and

a control system arranged to control a trigger signal to the light source for emitting the light flashes,

wherein a trigger signal timing is varied to compensate for flash-to-flash time jitter in said light source, and at least partially correct for pattern placement errors.

18. (Canceled)

19. (Previously Presented) The apparatus of claim 17, wherein the electronic control system is arranged to control a time offset of the trigger signal.

20. (Original) The apparatus of claim 19, wherein the offset value is estimated based on a measured delay between a trigger signal and a resulting exposure for at least one of the latest exposures.

21. (Currently Amended) A method for creating a pattern on a workpiece sensitive to light radiation, comprising:

emitting light flashes in the wavelength range from EUV to IR,

projecting the emitted light on the workpiece, and

controlling a trigger signal for emitting the light flashes so that a trigger signal timing is varied to compensate for flash-to-flash time jitter, and at least partially correct for pattern placement errors.

22. (Canceled)

23. (Previously Presented) The method of claim 21, wherein a time offset of the trigger signal is controlled.

24. (Original) The method of claim 23, wherein the offset value is estimated based on a measured delay between a trigger signal and a resulting exposure for at least one of the latest exposures.

25. (Currently Amended) An apparatus for creating a pattern on a photosensitive workpiece, comprising:

a light source for emitting light flashes in the wavelength range from EUV to IR,

a projection system for directing the emitted light to the workpiece, and
a control system arranged to control a trigger signal to the light source for emitting the light flashes,

wherein, during scanning, the control system measures a delay between a previous trigger signal and a resulting exposure to determine a timing of a subsequent trigger signal, and at least partially correct for pattern placement errors.

26. (Previously Presented) The apparatus of claim 25, wherein the electronic control system is arranged to control a time offset of the subsequent trigger signal.

27. (Currently Amended) A method for creating a pattern on a workpiece sensitive to light radiation, comprising:

emitting light flashes in the wavelength range from EUV to IR,
projecting the emitted light on the workpiece, and
during scanning, measuring a delay between a previous trigger signal and a resulting exposure to determine a timing for a subsequent trigger signal, and at least partially correct for pattern placement errors.

28. (Previously Presented) The method of claim 27, wherein a time offset of the subsequent trigger signal is controlled.